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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,675	11/03/2000	Adam Louis Buchsbaum	2000-0542	6271

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EXAMINER

CHANG, JUNGWON

ART UNIT PAPER NUMBER

2154

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/705,675

Applicant(s)

BUCHSBAUM ET AL.

Examiner

Jungwon Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/18/04, 7/28/04, 6/16/04, 4/8/04, 1/23/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

FINAL ACTION

1. This action is responsive to amendment filed on 1/24/2005. Claims 1-20 are presented for examination.
2. The rejection under 112, 2nd paragraph, is withdrawn based on the amendment filed on 1/24/2005.
3. The obviousness-type double patenting rejection is withdrawn based on filing of the terminal disclaimer.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11, 13-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aggarwal et al. (US 6,714,975), hereinafter referred to as Aggarwal in view of Rochberger (US 6,396,842 B1), hereinafter referred to as Rochberger.
6. As to claim 1, Aggarwal discloses the invention substantially as claimed,

including an on-line method of classifying IP addresses into related clusters (col. 2, lines 55-65; col. 5, lines 49-57; col. 9, lines 57-58) within a distributed information network, the method comprising the steps of:

receiving a plurality of IP addresses (i.e., in step 300, fig. 2, self-learning data is collected over time based upon user clicks; col. 5, lines 40-42; col. 5, line 66 – col. 6, line 3; in step 710, fig. 9, a client request for page $i(k)$ is received...the client is identified by some characteristic such as IP address; col. 9, lines 20-23);

processing the plurality of IP addresses classification process (i.e., a spatial clustering algorithm using IP address identification; col. 5, lines 50-57; IP addresses with logical (domain) names ending with .edu represent a set of students, professors and researchers who likely access pages in a similar fashion...this simplified domain-based clustering may be used to cluster users into groups; col. 6, lines 66 – col. 7, line 11; col. 7, lines 22-26; data mining algorithm; col. 7, lines 36-45); and

classifying the plurality of IP addresses into related clusters (i.e., classifying users into a plurality of user groups based on at least one user characteristic (IP address); col. 5, lines 49-57; col. 9, lines 57-58).

7. Aggarwal discloses processing the plurality of IP addresses classification process according to a spatial clustering algorithm (a spatial clustering algorithm using IP address identification; col. 5, lines 50-57; IP addresses with logical (domain) names ending with .edu represent a set of students, professors and researchers who likely access pages in a similar fashion...this simplified domain-based clustering may be used to cluster users into

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groups; col. 6, lines 66 – col. 7, line 11; col. 7, lines 22-26; data mining algorithm; col. 7, lines 36-45). However, Aggarwal does not specifically disclose radix encoded trie.

Rochberger discloses radix encoded trie (col. 1, lines 9-11; col. 8, lines 31-40; col. 10, lines 34-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Aggarwal and Rochberger because Rochberger's radix trie would improve the efficiency of data search by using the faster searching algorithm.

8. As to claim 2, Aggarwal discloses gateways, switch (col. 1, lines 16-29) and data communications between clients and server via Internet (fig. 1; col. 5, lines 22-24; col. 1, lines 17-29). However, Aggarwal does not specifically disclose plurality of IP addresses are received from one or more network routers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include routers because it would provide best path for forwarding the data toward its destination.

9. As to claim 3, Aggarwal discloses the IP addresses are network client IP addresses classifying users into a plurality of user groups based on at least one user characteristic (IP address); col. 5, lines 49-57; a client request for page $i(k)$ is received...the client is identified by some characteristic such as IP address; col. 9, lines 20-23).

10. As to claim 4, Aggarwal discloses the distributed information network is the World

Wide Web (i.e., internet application; col. 1, lines 20-29; col. 2, lines 55-65).

11. Claims 5 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fairchild et al. (US 6,343,320), hereinafter Fairchild, in view of Rochberger (US 6,396,842 B1).

12. As to claim 8, Fairchild discloses the invention substantially as claimed, including a method for determining the relationships between a plurality of client IP addresses (col. 10, lines 3-13), the method comprising:

processing the plurality of client IP addresses (i.e., grouping based on IP address; col. 10, lines 3-10); and

grouping all of the client IP addresses which share a common longest prefix matching into at least one client IP grouping (i.e., IP addresses where each peer in a group has the same upper 24 bits; col. 10, lines 3-13; 32-bit IP address in which the high order 24 bits for a given group are the same; col. 11, lines 3-20).

13. Aggarwal discloses spatial clustering algorithm using IP address (col. 5, lines 50-57). However, Aggarwal does not specifically disclose radix encoded trie. Rochberger discloses radix encoded trie (col. 1, lines 9-11; col. 8, lines 31-40; col. 10, lines 34-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Aggarwal and Rochberger because Rochberger's radix trie would improve the efficiency of data search by using the faster searching algorithm.

14. As to claim 5, it is rejected for the same reasons set forth in claim 8 above. In addition, Fairchild discloses extracting client IP addresses from a collection of IP addresses (i.e., IP pinging; col. 23, lines 30-36; col. 11, lines 20-30); and performing longest prefix matching on each client IP address (i.e., IP addresses where each peer in a group has the same upper 24 bits; col. 10, lines 3-13; 32-bit IP address in which the high order 24 bits for a given group are the same; col. 11, lines 3-20).

15. As to claims 6, 9 and 11, Fairchild discloses wherein the client IP addresses are extracted in real-time from a network server (i.e., IP pinging; col. 23, lines 30-36; col. 11, lines 20-30).

16. As to claim 7, Fairchild discloses the distributed information network is the Internet (col. 4, lines 48-61).

17. As to claim 10, Fairchild discloses the network servers are at least one of proxy servers (222, fig. 2), cache servers (i.e., database server; 226, 244, fig. 2), content distribution servers (i.e., HTTP server, 224, fig. 2) and mirror servers (i.e., backup; col. 7, lines 49-52).

18. As to claim 17, it is rejected for the same reasons set forth in claims 5 and 8 above. In addition, Fairchild discloses computer-readable medium containing

executable instructions (col. 12, lines 30-58).

19. As to claim 18, Aggarwal discloses the at least one IP address is a client IP address (col. 10, lines 3-13; col. 11, lines 3-20).

20. As to claims 13-16 and 20, they are rejected for the same reasons set forth in claims 5 and 8 above.

21. Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fairchild et al. (US 6,343,320), Rochberger (US 6,396,842 B1), further in view of Block et al. (US 6,192,417 B1), hereinafter Block.

22. As to claims 12 and 19, Fairchild and Rochberger do not specifically disclose server cluster. However, Block discloses server cluster (fig. 2; col. 4, lines 36-64; col. 10, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Altschuler, Rochberger and Block because Block's server clustering would improve the scalability and load-balancing by minimizing delay and packet loss by assigning all cluster members the same IP address whereby all cluster members receiving all messages.

23. Applicant's arguments filed 1/24/2005 have been fully considered but they are not persuasive.

24. In the remarks, applicants argued in substance that

(1) In order for a combination of references to be proper in support of a 103 rejection, there must be some teaching or suggestion within at least one of the references to combine the references. While Rochberger mentions a radix search tree, there is no motivation to combine Aggarwal with Rochberger such that classifications of IP address could be made utilizing a radix encoded trie classification process. Such a combination is based on hindsight and is therefore improper.

25. Examiner respectfully traverses applicant's remarks.

As to point (1), In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, Aggarwal discloses processing the plurality of IP addresses classification process according to a spatial clustering algorithm (a spatial clustering algorithm using IP address identification; col. 5, lines 50-57; IP addresses with logical (domain) names ending with .edu represent a set of students, professors and researchers who likely access pages in a similar fashion...this simplified domain-based clustering may be used to

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cluster users into groups; col. 6, lines 66 – col. 7, line 11; col. 7, lines 22-26; data mining algorithm; col. 7, lines 36-45). However, Aggarwal does not specifically disclose radix encoded trie. Rochberger discloses radix encoded trie (col. 1, lines 9-11; col. 8, lines 31-40; col. 10, lines 34-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Aggarwal and Rochberger because Rochberger's radix trie would improve the efficiency of data search by using the faster searching algorithm.

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is (703)305-9669. The examiner can normally be reached on 9:30-6:00 (Monday-Friday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9669.

JWC
May 25, 2005

 JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100